

Important Facts:

- ## Renewable Energy in Mexico: enormous wind, solar, hydro and geothermal resources

Mexico has 258 renewable electricity generation stations in operation or under construction. Close to 75% of Mexico's capacity is concentrated in the states of Oaxaca, Baja California, Tamaulipas, and Veracruz. ProMexico estimates is that installed capacity from renewable sources will increase to 20,544 MW by 2026.

Wind and hydraulic sources are projected to account for 58.6% and 27.3% of this increase, respectively, including public service, self-supply, and small-scale generation.

Note: Data in megawatts.

Source: SENER, CRE and CFE, 2013.

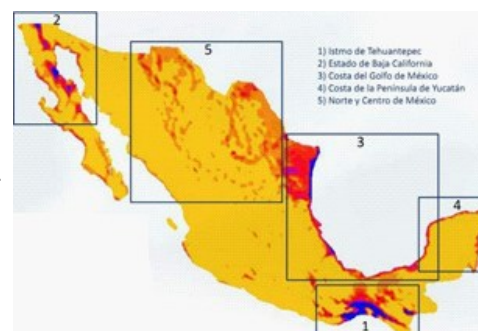


Mexico Attracts Foreign Investment in Renewable Energy

Mexico has an excellent geographic location and extensive renewable resource potential, making it an attractive destination for foreign investment. Although not a primary area of focus, Mexico's recent energy reform includes some provisions that could facilitate the commercialization of renewable resources to promote a new generation and new investment opportunities, particularly in geothermal energy. Between 2003 and 2012, Mexico received approximately \$7.34 billion in renewable energy investments, mainly in the states of Oaxaca and Baja California. According to ProMexico, the main investor countries were Spain, the United States, Denmark and France. Investments in renewables have grown more than 92% over the last five years (Mexico Energy & Sustainability Review). Transnational equipment suppliers and project developers consider Mexico an attractive destination for renewable energy investment. Furthermore, Mexican companies have diversified their business dealings with the sector with small-scale projects, equipment manufacturing, and marketing.

Mexico has the world's highest growth in wind energy, and is ranked #20 in the world

The installed capacity for wind power generation reached 1,289 MW in 2012 of which Mexico's Federal Electricity Commission (CFE) operates 7%. Concessionaires operate the rest under self-supply schemes. Mexico has a 40,268 MW wind power potential. However, currently only 3.2% of that capacity is utilized. The regions with most wind energy capacity are: The Isthmus of Tehuantepec (Oaxaca), La Rumorosa (Baja California), Coast of the Gulf of Mexico, in the North and Central Regions, and the Yucatan Peninsula. It is estimated that in 10 years, the wind power investment sector will exceed \$20 billion (Mexico Energy & Sustainability Review).



Mexico leads Latin America in solar energy production.

Mexico is among the top five most attractive countries in the world for investing in solar photovoltaic energy projects, surpassed only by China and Singapore. This is because the country is part of the "sunbelt" with radiation above 5 kWh per square meter per day. The estimated potential capacity for solar energy is 24,300 MW. Furthermore, Mexico has the largest manufacturing base of photovoltaic modules in Latin America.

Mexico has a total installed capacity of 66.8 MW in solar photovoltaic projects, mainly in rural and industrial electricity supply applications. Several projects are under construction that will have a total installed

PHOTOVOLTAIC MODULE MANUFACTURERS 2012

COMPANY	ANNUAL PRODUCTION CAPACITY (MW)	LOCATION
Jabil	45.0	Chihuahua, Chihuahua
Kyocera	150.0	Tijuana, Baja California
Sanyo	75.0	Monterrey, Nuevo León
ERDM Solar	30.0	San Andres Tuxtla, Veracruz
Solartec	12.5	Irapuato, Guanajuato
Total	312.5	

Source: BNEF, Updated on February 2013.

capacity of 141.66 MW. Some of the leading photovoltaic energy developers are Abengoa, Abener, DelSol Systems, Microm, and Iberdrola.

In September 2013, a 30 MW photovoltaic (PV) plant in Baja California Sur, Aura Solar, began operations, making it Mexico's first large scale solar energy plant. In April 2014, the Mexican Center of Innovation in Solar Energy began operations. The Center includes 88 institutions of which 67 are research centers and 21 are Mexican and international companies. The new Center will update the solar potential data of Mexico as well as develop 50 research projects.



Mexico has a large riparian system, capable of much greater "Small Hydro" production.

Currently, according to the U.S. Energy Information Agency, hydropower is Mexico's main source of clean energy, accounting for approximately 11% of the country's overall electricity generation in 2013 with an estimated potential of 53,000 MW, according to CFE. In 2013, the CFE recorded an installed capacity in operation of 11,707 MW, distributed in 72 stations, including stations of 30 MW or less. The private sector has 17 stations distributed in seven states and with a total capacity of 152 MW, 1.3% of total hydro installed capacity. The National Commission for Energy Efficiency (CONUEE) estimates that southern states



Geothermal sources are currently Mexico's most significant source of nonhydro renewable energy.

Mexico is the world's fourth largest geothermal energy producer. Mexico's new proposed Geothermal Law seeks to further develop geothermal potential creating a framework that regulates geothermal exploration and use. Mexico is currently the only Latin American country experienced in geothermal energy, from exploration to production (SENER). According to ProMexico, Mexico's installed geothermal capacity is 824 MW, currently operating in four geothermal fields: Cerro Prieto (570 MW) in Baja California, Los Azufres (192 MW) in Michoacán, Los Humeros (52 MW) in Puebla, and Las Tres Vírgenes (10 MW) in Baja California Sur. However, recent estimations report Mexico's geothermal potential at 40,000 MW. Exploitation of a fifth geothermic field in Jalisco, Cerritos Colorados, with an estimated potential of 75 MW, is expected to begin at some point in 2014. In Michoacán, Alstom established the Geothermal and Renewable Energy Cluster to improve technological development in the region, working with public sector. In addition, Alstom has a geothermal turbine manufacturing plant in Morelia to supply the local and foreign markets.



Source: SENER